Sections and Societies

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Mathematics

Section A, Mathematics, held three sessions, in addition to a luncheon on Saturday. The attendance was about 95.

On Friday afternoon, 29 March, L. M. Blumenthal, University of Missouri, spoke on "Some Metric Peculiarities of Elliptic Space," and J. L. Walsh, Harvard University, delivered his address as retiring vice-president of the Association and chairman of Section A on "Taylor's Series and Approximation to Analytic Functions." R. E. Langer, vice-president and chairman elect of Section A, presided.

On Saturday morning R. R. Middlemiss, Washington University, the chairman of the Missouri Section of the Mathematical Association of America, presided at a joint session of the Missouri Section and Section A. G. M. Ewing, University of Missouri, spoke on "Problems Arising From the Introduction of High School Mathematics Into the Colleges"; A. E. Ross, Saint Louis University, spoke on "A Course in the Interpretation of Basic Mathematical Concepts for Teachers in Secondary Schools"; and S. E. Warschawski, University of Minnesota, delivered an invited address on "Some Convergence Theorems in Conformal Mapping."

W. H. Roever, Washington University, presided at the Saturday luncheon for mathematicians at the DeSoto Hotel, and Prof. Langer spoke informally on immediate problems of departments of mathematics in the universities.

On Saturday afternoon, G. W. Snedecor, Iowa State College, presided at a joint session of the Institute of Mathematical Statistics and of Section A. Invited addresses were delivered by Cdr. J. H. Curtiss, USNR, on "Statistical Inference and Its Engineering Applications," and by M. H. Hansen, Bureau of the Census, on "Some Sampling Problems in Surveys of Business and Population." (*From reports by R. W. Brink and P. S. Dwyer.*)

Physics

The meeting of Section B, Physics, was held Friday morning, 29 March. About 125 persons attended. During the vice-presidential address the chair was taken by A. L. Hughes, of Washington University. R. C. Gibbs, vice-president of the Association and chairman of Section B, chose as his title "Whither Physics?" and discussed the problems facing physics as a result of the expansion of its activities during the war. Rear Adm. Bowen, USN, chief of the Office of Research and Inventions, spoke on "The Navy in Research," followed by Capt. M. J. Lawrence, USN, on "How the Navy Implements Its Research Program." Two invited papers on the application of physics to biology followed, one by Francis O. Schmitt, of the Massachusetts Institute of Technology, on "X-ray Diffraction and Electron Microscope Studies of Cell Structure," and the other by M. D. Kamen, of Washington University, on "The Use of Radioactive Tracers in Biological Research." (*From a report by Joseph C. Boyce.*)

At the meeting of the American Meteorological Society, six papers were presented: (1) "Storms and Origin of Microseisms," by James B. Macelwane, S.J.; (2) "Tracking Hurricanes With the Seismograph," by M. H. Gilmore (read by Fr. Macelwane); (3) "The Effect of Varying Pressure Gradients on the Trajectory of Air Parcels," by Lester Machta, Sr.; (4) "A High Altitude Meteorological Research Program," by Lt. Cdr. Daniel F. Rex; (5) "Heavy Snow Situations at Kansas City," by Oscar Tenenbaum; and (6) "Some Theorems of Vorticity and Development," by Lt. N. R. Beers.

The first two papers brought forth convincing evidence that severe cyclones cause an increase in the amplitude of microseisms, and that hurricanes can be mapped from the seismic disturbances resulting from them. This discovery ranks, along with storm location by radar and by aircraft reconnaissance, as the most significant contribution to the tracking of tropical storms since I. M. Cline first realized the importance of storm tides as a means of following their path (1900). The third paper showed that a noticeable error would result from the use of gradient winds in computing air trajectories because of the large magnitudes of the departures from the gradient winds associated with the accelerations of changing pressure gradients. The fourth paper outlined a new method of obtaining meteorological measurements at very high altitudes, from 100,000 to 500,000 feet, by the use of fully equipped rockets. The fifth paper was illustrated with weather maps showing four types of synoptic situations which may produce heavy snowstorms in the vicinity of Kansas City. The final paper treated certain phases of the subject of vorticity from an original theoretical viewpoint and dealt with the validity of some existing theories.

The meeting was fairly well attended, with about 100 people registering. (*From a report by E. M. Brooks.*)

Chemistry

No report has been received from the secretary of Section C, Chemistry, but a few brief notes can be prepared from material in the office of the Permanent Secretary. The feature of the meetings of the section was a symposium on chemotherapy, consisting of eight papers which were presented in four sessions on Thursday and Friday, 28–29 March. In order to provide ample opportunity for discussion of the papers, only two speakers were scheduled in each session. R. B. Woodward and S. A. Waksman, in collaboration with A. I. Schatz, were the principal speakers on the Thursday morning program; Walter Seeger and K. P. Link featured on the Thursday afternoon program, which was followed by a business meeting of the section committee and a dinner, at which the retiring chairman of the section, Arthur J. Hill, gave his address. E. A. Doisy acted as honorary chairman of the dinner and introduced the speaker. On Friday, the symposium on chemotherapy was continued, various aspects of biochemistry being presented by E. A. Evans, W. Price, M. Slein, S. P. Colwick, C. F. and G. T. Cori, O. H. Gaebler, and R. J. Williams. The sessions were well attended and well received.

Astronomy

Section D, Astronomy, met for two sessions, first on the afternoon of Friday, 29 March, and again on the forenoon of Saturday. The program included 17 papers.

The retiring vice-president, Seth B. Nicholson, of the Mount Wilson Observatory, addressed the section on "The Solar Cycle." O. C. Mohler presented the retiring address of Robert R. McMath, of the McMath-Hulbert Observatory, which had been postponed from the Dallas meeting. This address, entitled "Three-dimensional Work on Prominences," was illustrated by motion pictures of solar prominences. The vice-president of the section, J. J. Nassau, of the Case School of Applied Science, presented a paper on "Problems Relating to Objective Prism Spectra," and the vice-president elect, G. Van Biesbroeck, of the Yerkes Observatory, presented a paper on "Nebular Photographs With the 82-inch McDonald Reflector."

A paper which attracted considerable interest was "Possibilities in the Astronomical Use of Radar," presented by W. W. Salisbury, of the Collins Radio Corporation. Other papers touched on the subjects of stellar constitution, eclipsing binaries, the recent nova T Coronae Borealis, the orbits of comets, of Mercury, and of Uranus, celestial navigation, and stone-dropping meteors.

The number attending the Friday afternoon session was estimated at 35, and the number attending the Saturday forenoon session was estimated at 40. To give more time for the section luncheon on Saturday, the papers of absent authors were placed at the end of the program, and a few were merely read by title. The section members were entertained at luncheon by Eugene and Jessica Y. Stephens at their home in Clayton. (*From a report by C. C. Wylie.*)

Geology and Geography

Section E, Geology and Geography, held nine sessions on Wednesday, Thursday, and Friday. Most of the sessions consisted of symposia or of integrated papers on related topics. This method of program construction appeared to be successful and met with general approval. Attendance varied from 35 to 90, with an average of 60 at each session. The estimated number of different persons attending all sessions was 325.

The Section Committee met for dinner and discussion of section policies on Thursday evening, with an attendance of 15 committee members and guests who had had a part in arranging the symposia and facilities for the St. Louis meeting. The sessions had the cooperation of the Geological Society of America, the Association of American Geographers, and the American Institute of Mining and Metallurgical Engineers, Industrial Minerals Division; and the specially printed Section E program, with abstracts, was provided through the cooperation of the Geological Society of America. Carl Tolman was chairman of the local committee for the meetings.

On Wednesday, both morning and afternoon, the section held a symposium on Pennsylvanian, organized by H. R. Wanless. The first part was composed of five summary papers dealing with stratigraphic principles and problems of the Appalachian, Mid-continent, Texas, and New Mexico regions. The second part of the symposium was made up of five papers on Pennsylvanian paleontology, in which modern uses of invertebrates, microfossils, plant fossils, and spores were discussed.

On Thursday morning the section met jointly with the Industrial Minerals Division of the American Institute of Mining and Metallurgical Engineers for a series of papers organized by Richard M. Foose. These papers dealt with various industrial minerals of the central part of the United States. On Thursday afternoon Howard A. Meyerhoff, retiring chairman, presented his vice-presidential address, "Geomorphology—The Inexact Science." The remainder

of the session was given over to six papers, most of which dealt with new discoveries and new conceptions in Appalachian geomorphology.

On Friday morning the section met for concurrent sessions. The first was a symposium on Pleistocene geology, organized by Leland Horberg, in which eight papers were presented on recent Pleistocene discoveries and current problems in the central states. The second session on Friday morning consisted of five papers on general geological topics. At the Friday afternoon session, six papers on Missouri geology were presented in a session organized through the cooperation of E. D. Clark and E. B. Branson.

On Wednesday afternoon Section E joined with Section K in a joint symposium on "The Impact of Technology on Society," and on Thursday morning with Sections O and K in a symposium on "Relations of Soils to Plant, Animal, and Human Nutrition." [See reports of Sections O and K.] (*From a report by G. W. White.*)

Zoology

The formal programs of Section F, Zoology, were held under the sponsorship of the American Society of Zoologists.

At the business meeting of Section F it was resolved that after 1 January 1948 the Executive Committee of the Section Committee should consist of the elected secretaries of the following affiliated societies: Entomological Society of America, American Society of Zoologists, American Association of Economic Entomologists, American Society of Naturalists, Ecological Society of America, Genetics Society of America, American Microscopic Society, Limnological Society of America, and American Society of Parasitology.

The chairman and secretary of Section F continue as ex officio members of the Executive Committee. It was further resolved that the members elected to the Committee should take office 1 January 1947 and should serve one year only and that the other members whose terms extend beyond 1 January 1948 should continue to serve their term.

The greatest interest aroused in the section was the definite formulation of plans to organize an American Institute of Biology. (*From a report by J. W. Buchanan.*)

At the 20th annual meeting of the American Society of Parasitologists 69 papers were presented either in person, by demonstration, or by title. The address of the retiring president, A. C. Chandler, "The Making of a Parasitologist," was delivered at the end of the morning session of the second day. This event was followed by the annual luncheon and the general business meeting of the Society. The afternoon of the second day was devoted to a demonstration program and a hospitality session. All the program sessions were well attended. One hundred and twenty-one persons were present for the luncheon and business meeting.

At the business meeting, the following persons were elected to the Society offices: president for 1946, N. R. Stoll, Rockefeller Institute, Princeton, New Jersey; vice-president for 1946, H. Kirby, Jr., University of California; secretary for 1946–1947, J. T. Culbertson, Columbia University; and councilors-at-large through 1949, W. T. M. Cameron, of McGill University, and W. H. Wright, of National Institute of Health.

The Society formally endorsed the formation of an organization of biologists on the basis of the two following propositions submitted by the representative to the Council of the Union of American Biological Societies: (1) to provide a means for executing our public responsibilities as biologists and scientists, so that the freedom essential to the progress of science and public welfare be ensured; (2) to safeguard the professional interests of biologists and to assist in providing the material means for the promotion of biological research; also to provide such services as may be necessary to facilitate this program. (*From a report by J. T. Culbertson.*)

The 42nd annual meeting of the American Society of Zoologists was held on 28–30 March in conjunction with Section F, AAAS, and in association with several other biological societies.

One symposium was arranged by President A. S. Pearse with the cooperation of Thomas Park. This dealt with a review of the problem of dynamics of production in aquatic populations. The participants presented a critical review of recent work with respect to certain marine and fresh-water populations. A feature of particular interest was the discussion period which followed the formal presentation of papers.

Although the number of papers read in person was not as large as in the years immediately preceding the war, the number compared favorably with those presented at meetings in the early 1930's. In all, 80 papers were read, and there were also 16 demonstration papers and 105 papers presented by title.

Six regular sessions for the reading of papers were held, in addition to the symposium and a single afternoon demonstration session.

Approximately 350 persons attended the regular sessions of the Society. The annual dinner was held on Friday evening with 280 persons attending. Carl G. Hartman, retiring chairman of Section F, gave the dinner address on "The Little Researcher."

At the annual business meeting, held on Friday,

29 March, the following officers were elected for the year 1946: D. E. Minnich, University of Minnesota, president; E. G. Butler, Princeton University, vice-president; L. V. Domm, University of Chicago, secretary; and A. S. Pearse, Duke University, member of the Executive Committee. (*From a report by L. V. Domm.*)

At a joint meeting of the North Central States Branch of the American Association of Economic Entomologists and the Entomological Society of America, 27–29 March, the entomologists discussed in some detail their relationship with the National Science Foundation. A committee was appointed to prepare a resolution for the support of legislation now pending in Congress. A resolution was later adopted and forwarded to the proper authorities.

The recent developments in machinery for the application of insecticides and fungicides were reviewed by the conference. Particular attention was devoted to the airplane as a modern means of the large-scale application of chemicals to field and forest areas.

The use of DDT in agriculture for the control of many kinds of insects entered into all of the entomological programs. P. N. Annand, chief of the Bureau of Entomology and Plant Quarantine, Washington, D. C., presented a most excellent summary of DDT as it may now be applied against insects attacking agricultural crops. A series of half-day conferences were held on the control of insects attacking field, garden, fruit, livestock, greenhouse, and forest crops. The chemistry and toxicology of the several new chemicals applied against insects were reviewed. A total of 187 entomologists registered for the conference. (*From a report by M. D. Farrar.*)

The 40th annual meeting of the Entomological Society of America was held at the same time as the meetings of the North Central States Branch of the AAEE. About 200 entomologists from the two societies were in attendance. The program included three sessions at which papers were presented, covering a wide scope of entomological research. A joint session was held Thursday morning with the North Central States Branch, at which several important matters of national character, bearing on entomology, were discussed. Friday morning the Entomological Society had a very interesting joint session with the Ecological Society of America. The entomologists' banquet was held on Thursday evening. After the banquet James A. G. Rehn, president of the Entomological Society, gave the presidential address, "Entomology as an Integrant Part of Zoological Science."

The business meeting was held Thursday afternoon. Officers for the coming year are: president, C. F. W. Muesebeck; 1st vice-president, S. A. Graham; 2nd vice-president, Alvah Peterson; and secretary-treasurer, Herbert H. Ross.

A high light of the meeting was the participation of a large group of entomologists until recently in the armed services. Many had been discharged only in the last two or three months, and many contributed interesting papers based on their experiences in various parts of the world with unusual aspects of medical entomology. (*From a report by H. H. Ross.*)

Botany

Section G, Botanical Sciences, met in joint session with the Botanical Society of America, the American Phytopathological Society, the American Society of Plant Physiologists, the American Society of Plant Taxonomists, the Mycological Society of America, and the Sullivant Moss Society. The program consisted of the retiring address of the chairman of the section and president of the Mycological Society of America, Frank D. Kern, on "Some Bases for Mycological Progress." This address was followed by a paper by John T. Buchholz, vice-president for the section for 1942, on "Evolutionary Role of Embryonic Selection in Pines," and by an invitation address by E. B. Babcock on "New Light on Evolution From Research on the Genus *Crepis*." The total attendance was about 250. (*From a report by G. W. Martin.*)

The 37th annual meeting of the American Phytopathological Society held in St. Louis on 27–30 March was attended by approximately 325 members. Eighty-three papers on original research on plant diseases were presented in nine sectional meetings. Eleven papers were presented on fungicides; 10 on small grain diseases; 13 on virus diseases; 10 on vegetable diseases; 9 on physiology of pathogenic fungi; 10 on cereal diseases and pathogens; 9 on factors affecting disease resistance; 5 on forest pathology; and 6 on disease resistance and genetics. Three papers were presented in the joint session with the American Mycological Society and the American Botanical Society. Joint meetings also were held with the Potato Association of America and with Section G.

The following conferences were held: Plant Disease Survey, in which the question, "How Can We Improve Our Crop Disease Service?", was discussed; Fungicides, where newer chemical pesticides were considered; Extension; Late Blight of Potato; and Tobacco Research Council.

The annual dinner, held on Thursday evening, was attended by 220 members and guests. The officers for 1946, announced at the annual dinner, are: president, J. H. Craigie; vice-president, A. J. Riker; secretary, E. M. Johnson; treasurer and business manager

of *Phytopathology,* R. M. Caldwell; editor-in-chief *Phytopathology,* Helen Hart; councilors, C. H. Arndt, R. W. Goss, R. J. Haskell, H. B. Humphrey, L. D. Leach, M. C. Richards, and C. M. Tucker. (*From a report by E. M. Johnson.*)

The American Society of Plant Physiologists, under the presidency of Paul J. Kramer, Duke University, held six joint sessions with the Physiological Section of the Botanical Society of America; met with Section G on Thursday afternoon; and met with the Physiological Section of the American Society for Horticultural Science and Section O, AAAS, for a symposium on "Mineral Nutrition of Plants and Animals" on Friday afternoon. Attendance was high, averaging 50–75 persons at the six general sessions and 300–400 at the Friday afternoon symposium. A total of 82 papers was presented, with groups of papers or entire sessions on photosynthesis and plant pigments, hormones as growth factors or as herbicides, mineral nutrition, methods, correlation, reproduction, and respiration.

The plant physiologists' dinner was held Friday evening at the Mark Twain Hotel. The election of Dennis Robert Hoagland, University of California, as Charles Reid Barnes Life Member was announced. B. S. Meyer, of Ohio State University, gave the presidential address for 1944, speaking on "The Case for Greater Cooperation Among Science Societies." H. A. Spoehr, Carnegie Institution, retiring president, discussed "The Coming of Age of the American Society of Plant Physiologists," in recognition of the 21st anniversary of the founding of the Society. (*From a report by W. E. Loomis.*)

The Systematic Section of the Botanical Society of America and the American Society of Plant Taxonomists on Thursday and Friday mornings held joint meetings, at which were given a total of 18 papers covering a wide range of topics, most of them illustrated with lantern slides. On Thursday afternoon these two groups met jointly with Section G, AAAS. A memorable occasion was the Friday evening dinner sponsored by the Plant Taxonomists, but attended equally well by members of the Systematic Section. At this dinner Francis W. Pennell delivered the principal address. Saturday morning was reserved for a joint session with the Paleobotanical Section. This session was a symposium, on the general theme "Paleobotanical Taxonomy." The attendance at all of the meetings was very satisfactory, running mostly from 40 to 60. (*From a report by E. E. Sherff.*)

The Botanical Society of America, Inc., held its annual meeting in conjunction with the AAAS and its affiliated societies at St. Louis, 27–30 March, with approximately 560 of its members present. In addition to the daily programs of invitation papers, contributed papers, and symposia presented by the four sections of the Society, joint meetings were held with the American Society of Plant Physiologists, Mycological Society of America, American Society of Plant Taxonomists, Ecological Society of America, American Society for Horticultural Science, and the American Society of Naturalists. The Society also joined the other plant science societies in a joint meeting of Section G on Thursday afternoon. The Southeastern Section of the Society held its annual luncheon on Thursday noon, and the Botanists' Dinner was held on Thursday evening with 367 members present.

A new section of the Society, the Microbiological Section, was organized on Friday afternoon, after which a program of papers on microbiology was presented.

The following officers of the Society were elected and appointed for 1946: Neil E. Stevens, University of Illinois, president; Walter F. Loehwing, State University of Iowa, vice-president; John S. Karling, Columbia University, secretary; George S. Avery, Jr., Brooklyn Botanic Garden, treasurer; Bernard S. Meyer, Ohio State University, editor-in-chief, *American Journal of Botany*; and John T. Buchholz, University of Illinois, member of the editorial board. (*From a report by J. S. Karling.*)

The Mycological Society of America held its 12th annual meeting in St. Louis. The following panel of officers was installed: George B. Cummins, president; John A. Stevenson, vice-president; F. K. Sparrow, secretary-treasurer; Julian H. Miller, George W. Martin, S. M. Zeller, and Frank D. Kern, councilors.

Edith K. Cash and S. M. Pady were appointed to the editorial board of *Mycologia.*

A business session was held Thursday morning, after which there was a program largely concerned with the higher fungi.

The presidential address by the retiring president, F. D. Kern, entitled "Some Bases for Mycological Progress," was also given as the address of retiring vice-president for Section G.

Friday morning's program was concerned with papers on antibiotic substances, fungi parasitic on man, cytology, and Phycomycetes. The afternoon session was devoted to fungi and the war. Papers on textile deterioration, soil burial tests, and fungus damage to battleship equipment were given. In the evening the Society was entertained by Anheuser-Busch, Inc., at a buffet supper, after which papers were heard on the breeding of yeasts and on industrial fermentation with the filamentous fungi.

Saturday morning's session was a joint one with

the American Phytopathological Society and Botanical Society. Papers were given on disease-producing fungi, cytology, inheritance of pathogenicity, and nutrient and cultural requirements of parasitic fungi. (*From a report by F. K. Sparrow.*)

The American Microscopical Society held its Executive Committee meeting Thursday noon. There was a large representation of the entire executive group, which included five past presidents of the Society. Among the subjects discussed were means of meeting the increased costs of publication of the *Transactions* due to increased rates and the return to normal volume. Slight increases in subscription rates and membership dues were agreed upon, as was also the establishment of sustaining and institutional memberships. Favorable responses were given to support of a national Scientific Research Foundation and to the organization of an Institute of Biology.

The annual meeting, held on 29 March, was called to order by the president, Raymond C. Osburn. Favorable reports from the treasurer, A. M. Chickering, and from the acting custodian of the Spencer-Tolles Endowment Fund, Lyell J. Thomas, were received. A necrology of seven members was announced. Six of the deceased members had held membership for more than 55 years. The list included Edward Bausch, a member since 1879; Simon H. Gage, 1882; William Bausch, 1888; Edward Pennock, 1879; Frank Patrick, 1891; William Carl Gower, 1939; and Henry B. Ward, 1887.

Various items recommended by the Executive Committee were adopted by the Society, which voted to meet with the AAAS in Boston next December. Officers elected for 1946 were: president, J. E. Ackert; first vice-president, William Procter; second vice-president, O. W. Richard; secretary, F. E. Eggleton; acting custodian of the Spencer-Tolles Fund, L. J. Thomas; member of the Spencer-Tolles Committee, L. E. Noland; and elective member of the Executive Committee, R. C. Osburn. (*From a report by J. E. Ackert.*)

The American Society of Naturalists sponsored the annual Biologists' Smoker, which was held in the Grand Lounge, Municipal Auditorium, on Thursday evening, 28 March, at 9:00 P.M. An estimated 1,000 persons were in attendance. On Saturday afternoon, 30 March, the annual symposium was held on "Recent Advances in the Dynamics of Behavior." The following addresses were scheduled: "Functional Plan of Organization of the Nervous System," R. Lorente de Nó; "Chemical Kinetics in Relation to Aspects of Behavior," Hudson Hoagland; "Biology of Drives," Curt P. Richter; and "Modern Dynamic Psychology," Carney Landis. The symposium, which was attended by approximately 300 persons, was arranged by Karl S. Lashley. Following the symposium, the retiring president of the Society, E. W. Sinnott, delivered his presidential address on "Substance or System, the Riddle of Morphogenesis." The annual Naturalists' Dinner was omitted this year. At the annual business meeting, C. W. Metz was elected president, and H. A. Spoehr, vice-president. (*From a report by R. E. Cleland.*)

The Beta Beta Beta Biological Fraternity held its regular meeting following a luncheon at the DeSoto Hotel on Thursday. The feature of its program was an address by Wyman R. Green on the life and work of Clarence E. McClung, who was president of Beta Beta Beta at the time of his death. In the business session following the program, plans were made for continuing various phases of activity sponsored by the general society: publication of *Bios*; the undergraduate competition in thesis writing; the McClung Award for undergraduate research; publication of the classroom and vocational guidance series of *Booklets*; and the holding of regional conferences.

New chapters were granted to petitioning groups at Drake University, Texas State College for Women, and Huntingdon College. Officers elected for the ensuing biennium were: Lloyd M. Bertholf, president; F. G. Brooks, secretary-treasurer; Earl Bowen, P. H. Yancey, H. J. Eigenbrodt, A. V. Hunninan, and E. R. Noble, regional vice-presidents. (*From a report by F. G. Brooks.*)

The Ecological Society of America held its 30th annual meeting from Wednesday to Saturday. There were nine sessions, at which 68 speakers presented papers. Total attendance was about 150.

On Thursday afternoon there was a joint symposium with the American Society of Zoologists and the Limnological Society of America on "Aquatic Populations." This event included the following speakers: Thomas Park, University of Chicago; George L. Clarke, Harvard University and Woods Hole Oceanographic Institution; Robert W. Pennak, University of Colorado; W. T. Edmondson, Woods Hole Oceanographic Institution; and W. E. Ricker, Indiana University.

Joint sessions were held with the Entomological Society of America and the Botanical Society of America. Highlights of the strictly intrasociety sessions were the one on applied ecology, John M. Aikman, Iowa State College, chairman; and that on the teaching clinic, Paul B. Sears, Oberlin College, chairman. A very satisfactory ecologists' dinner was held on Friday evening, followed by an illustrated address

by the past president, Robert F. Griggs, George Washington University, entitled: "Timberlines of North America."

Officers for 1946 are: John M. Aikman, Iowa State College, president; Aldo Leopold, University of Wisconsin, vice-president; William A. Dreyer, University of Cincinnati, secretary; and Henry J. Oosting, Duke University, treasurer. (*From a report by W. A. Dreyer.*)

The Genetics Society of America held its meetings on 28–30 March. Demonstration papers were presented at Washington University on the morning of 28 March, with 19 investigators demonstrating either living material or prepared slides and specimens.

The annual luncheon and business meeting was held in Macmillan Hall on the campus at noon, with 141 members present. In the absence of the other officers, the secretary presided. Since the journal *Genetics* no longer needs financial support from the Society, the dues for 1947 were reduced to $1.50. Members are urged, however, to subscribe to *Genetics*. A report was presented by Dr. Muller on the aid of geneticists in wartorn countries. Dr. Metz spoke in support of the Institute of Biology to be formed during the meetings, and a motion for support was carried unanimously. Dr. Demerec reported that the next International Genetics Congress would probably be held in Denmark and Sweden in 1948.

The remainder of the meetings were held in Hotel Lennox. On Thursday and Friday afternoons a total of 25 short papers was presented. Friday morning the Society held a joint session with the American Statistical Association, at which time a symposium was presented on "Statistical Analysis of Hybrid Vigor." On Saturday morning five invitational papers were presented on various timely phases of genetic research. Saturday afternoon was given over to a joint session with the American Society of Naturalists, where a symposium on "Neurodynamics of Behavior" was presented.

The average attendance at the sessions of the Society was about 150. (*From a report by L. H. Snyder.*)

At the eighth annual meeting of the Limnological Society of America Paul S. Welch, of the University of Michigan, was elected president. Prof. Welch has served the Society as secretary-treasurer since its founding in 1935. A. D. Hasler, of the University of Wisconsin, succeeded A. H. Wiebe, of the Tennessee Valley Authority, as vice-president. G. L. Clarke, of Harvard University and the Woods Hole Oceanographic Institution, the retiring president, was elected secretary-treasurer.

The first session of the eighth annual meeting of the Society was held jointly with the American Society of Zoologists and the Ecological Society of America on Thursday afternoon, 28 March. The meeting consisted of a symposium on the "Dynamics of Production in Aquatic Populations." The meeting of the Society was continued on Friday with morning and afternoon sessions, at which 15 papers were presented. Between 50 and 100 members of the Society attended these sessions and remained for the business meeting which followed the afternoon session. (*From a report by G. L. Clarke.*)

The National Association of Biology Teachers, meeting with the AAAS in St. Louis, had an excellent experience as an organization. Members took advantage of the many other biological meetings, made new contacts, attended important sessions of ecology, embryology, genetics, physiology, parasitology, pathology, and others.

The NABT conducted its meetings Friday and Saturday, 29–30 March, at the DeSoto Hotel. Under the leadership of its president, Prevo L. Whitaker, Indiana University, Friday was devoted to the business session.

The program on Saturday was in charge of E. Lawrence Palmer, Cornell University, and the sessions were concluded Saturday evening by a banquet attended by 121 members and guests. The speaker was Otis W. Caldwell, general secretary, AAAS, who discussed the subject: "Of What Does Good Biology Teaching Consist?" (*From a report by H. P. K. Agersborg.*)

On the evening of 28 March, at St. Louis, about 150 biologists attended an open meeting sponsored jointly by the Union of American Biological Societies, the American Biological Society, and the American Society of Naturalists, to consider the establishment of an Institute of Biology to represent and support the interests of American biologists. Robert Chambers, president of the Union of American Biological Societies, presided. The principal speaker was Detlev Bronk. Dr. Bronk pointed out the numerous advantages which biologists would gain by having an Institute, and then outlined some tentative plans for such an organization based largely upon the results of an informal meeting of a few biologists of Cleveland, Ohio, in September 1944. Following some general discussion of Dr. Bronk's address, it was unanimously voted to have the original Cleveland group form the nucleus of a committee authorized to proceed with the development of an American Institute of Biology. This committee was authorized to invite to work with it any other sincerely interested biologists who cared to contribute the necessary time and

energy. The original informal Cleveland committee consisted of the following: Detlev Bronk, University of Pennsylvania, chairman; F. A. Brown, Jr., Northwestern University, secretary; E. G. Butler, Princeton University; Robert Chambers, New York University; A. J. Carlson, University of Chicago; R. E. Cleland, University of Indiana; B. M. Duggar, University of Wisconsin; R. C. Smith, Kansas State College; H. B. Steinbach, Washington University; C. V. Taylor, Stanford University; and Paul Weiss, University of Chicago.

The Society for the Study of Evolution was formally organized in St. Louis on 30 March 1946. The newly elected officers are: George G. Simpson, president; E. B. Babcock, J. T. Patterson, and A. E. Emerson, vice-presidents; Ernst Mayr, secretary; K. P. Schmidt, treasurer; E. R. Dunn, H. J. Muller, Sewall Wright, G. Jepsen, Th. Dobzhansky, and R. Chaney, members of the Council. The Society is an outgrowth of the Society for the Study of Speciation and of the National Research Committee on Common Problems of Genetics, Paleontology, and Systematics. The Society is open to all individuals interested in the dynamics of evolution. Attendance at the organization meeting was about 70 persons. Dues for 1946 were set at $1.00. Contributions for the establishment of a journal will be welcome. It is planned to hold the next meeting with the AAAS in Boston after Christmas 1946. Communications should be addressed to Ernst Mayr, Secretary, American Museum of Natural History, Central Park West at 79th Street, New York 24, New York. (*From a report by A. E. Emerson.*)

Psychology

Section I, Psychology, met jointly with the Midwestern Psychological Association on Thursday, Friday, and Saturday. Although there was no separate registration of the Midwestern group, it was estimated that approximately 200 members attended the sessions. Fifty new members were elected, making a total roster of some 550 people. This was the first meeting of the Midwestern Psychological Association since 1942. Altogether 43 papers were read. Sessions dealt with general psychology, abnormal psychology, comparative psychology, social psychology, and child psychology.

At a joint session of Sections I and Q and the Midwestern Psychological Association, the vice-presidential addresses for those three organizations were given. The speakers were Sidney L. Pressey for the Midwestern Psychological Association, who spoke on "Acceleration: Disgrace or Challenge?"; Florence L. Goodenough, the retiring vice-president of Section I, who spoke on "Semantic Choice and Personality Structure"; while H. H. Remmers, retiring vice-president of Section Q, spoke on "You *Can* Change Human Nature."

The Midwestern Psychological Association announced that its new officers are: Dael Wolfle, president; Claude Buxton, secretary-treasurer; and Fred McKinney, council member. Sidney L. Pressey, the retiring president of the Midwestern Psychological Association, was elected vice-president of the AAAS and chairman of Section I. (*From a report by Harold E. Burtt.*)

The Society for Research in Child Development, in addition to the regular meeting, held informal meetings of officers on Thursday evening, 28 March, and at a luncheon on Friday, 29 March. The Governing Council approved a list of applications for membership in the Society, discussed the advisability of holding a general meeting in the near future, considered necessary business, and laid plans for the agenda of the business meeting.

The first session of the general meeting on 29 March included reports of current research at Antioch College, the University of Illinois, the University of Iowa, and the University of Minnesota.

The second session was a round-table discussion of plans and policies in the postwar world. The main topics discussed were: (1) the problems of obtaining funds and of securing trained personnel to carry on research in child development; (2) the possibility of the Society for Research in Child Development and the Committee on Child Development of the National Research Council forming a nucleus to coordinate research in the child field, or (3) a revolving coordinating committee of experts from the Society to take on the project; (4) the appointment of an outstanding person to carry out and direct a planned project; and (5) the question of individual *vs.* group research, etc.

The third and final session was the business meeting of the Society. In addition to regular business, the following major items were approved: (1) change in election procedure; (2) change of name of the head of the Society for Research in Child Development from chairman to president, this change being made in order to conform to the policy of other societies; and (3) the publication of a popular book for parents.

There was great enthusiasm for future work in child development, and an interest by members and nonmembers alike in the work of the Committee on Child Development and the Society for Research in Child Development. The feeling was general and genuine that it was advantageous to meet with the AAAS for the reason that it was possible to attend sessions of the Association of interest to an interdis-

ciplinary group such as the Society for Research in Child Development. Formal resolutions were prepared expressing thanks to the Association for the excellent arrangements made for hotel accommodations and for the meeting. (*From a report by Beulah Brewer.*)

Social and Economic Sciences

Section K, in partial cooperation with Pi Gamma Mu and Section E, held six program meetings built around the central theme, "The Impact of Technology on Society." In cooperation with the American Library Association, it sponsored an exhibit of books, "The Social Impact of Science," representing holdings of St. Louis libraries and based upon a bibliography prepared by the Library of Congress for the Kilgore Committee.

Programs covered the fields of Planning, Economic Organization, International Relations, Regional Study, Religion, and Human Conservation. A portion of the papers are to be published in *Social Science,* official organ of Pi Gamma Mu, the National Social Science Honor Society.

A business session was devoted to discussion of the function of Section K in relation to other sections of the AAAS and to various national social science organizations. It was decided that Section K should serve as a liaison agent to correlate the interests of such groups.

The papers and discussions emphasized several important relationships between the social sciences and technological change: (1) Technological change is both a result and a cause of social change. (2) It is possible to predict and to plan for technological change. (3) Social research and planning are needed to add meaning to scientific progress in terms of human values. (*From a report by Paul Howard.*)

For the first time in over 25 years of association with the AAAS as an affiliated society, the American Statistical Association and its Biometrics Section arranged a major program for the AAAS meeting. This program consisted of seven sessions. Three of the sessions were symposia of a rather general character, while four dealt with applications of statistical methods to various agricultural and biological problems.

The first of the general symposia was on "Quality Control in American Industry," in which the development of industrial quality control during recent years was discussed. Participants included: F. J. Halton, Jr., Deere and Company, chairman; A. I. Peterson, Radio Corporation of America; J. S. Tawresey, Bunting Bronze and Brass Company; Cdr. E. W. Cannon, Navy Bureau of Ships; and B. L. Clark, Merck and Company. The second general symposium was on "Social Sampling and the Measurement of Opinion." This discussion dealt with the rapidly growing field of opinion polls and surveys and their social, political, and economic applications. Among the participants were: W. F. Ogburn, University of Chicago; S. A. Stouffer, Harvard University; and S. S. Wilks, Princeton University. At the third symposium, devoted to "Personnel Selection by Psychological Tests," personnel selection procedures were discussed with special reference to those used in the Army and Navy during the war. Participants included: P. J. Rulon, Harvard University, presiding; Henry Chauncey, College Entrance Examination Board; Col. John C. Flanagan, Army Air Forces; Cdr. E. L. Kelley, Office of Research and Inventions of the Navy; and M. W. Richardson, U. S. Civil Service Commission.

Of the four sessions arranged by the Biometrics Section, one was devoted to statistical problems relating to studies of hybrid vigor and was held jointly with the Genetics Society of America; another consisted of papers on statistical problems in horticultural research and was a joint session with the Horticultural Society; and the other two were concerned with statistical methodology of various experimental designs in agricultural and biological research. Approximately 15 papers were read in these four sessions. Participants in the sessions included: J. W. Gowen, Paul G. Homeyer, and G. W. Snedecor, Iowa State College; R. L. Anderson and J. A. Rigney, North Carolina State College; H. H. Strandskov and G. J. Siemens, University of Chicago; H. C. Fryer and D. C. Warren, Kansas State College; M. E. Muhrer and A. G. Hogen, University of Missouri; W. P. Judkins and Donald Comin, Ohio Experimental Station; Donald F. Jones, Connecticut Agricultural Experiment Station; W. T. Federer, E. L. LeClerg, B. L. Wade, F. M. Wadley, and G. F. Sprague, U. S. Department of Agriculture; and various discussionists.

The attendance at these seven sessions varied from 20 to approximately 150 persons. (*From a report by S. S. Wilks.*)

History and Philosophy of Science

The most significant phase of the program of Section L, History and Philosophy of Science, was the participation of a representative group of people in the philosophy of science from every section of the United States. A very rich symposium was held on "Theory and Prediction in Science." After a brief formulation of the problem and issues by Rudolf Carnap, the following persons participated in a panel discussion: A. C. Benjamin, Max Black, Philip Frank,

Carl Hempel, Henry Morgenau, Ernest Nagel, F. S. C. Northrop, Hans Reichenbach, Alfred Tarski, and Norbert Wiener. A symposium was also held on the "Philosophy of Biophysics," under the chairmanship of F. S. C. Northrop, with H. S. Burr, Henry Morgenau, and Raymond Zirkle participating. The discussion was directed to the problem of the relation between the particle physics and the field physics approach to biology. The group in the philosophy of science selected a program committee consisting of F. S. C. Northrop, chairman; Max Black, Rudolf Carnap, Ernest Nagel, Hans Reichenbach, and R. J. Seeger, ex officio. This committee is already planning two symposia for the 1946 Boston meeting: one on the "Philosophy of Mathematics," under the responsibility of Max Black, and the other, under the responsibility of Ernest Nagel, on the question: "How far does scientific method determine the social ends for which scientific discoveries are used?"

Highlights of the history of science program were two symposia. A symposium on "Science and Society" discussed the relation of government to scientific research. Father Patrick Holloran urged the desirability of independent scientific groups, whereas James B. Conant presented the need for cooperative investigations. The other symposium concerned the "History of Antibiosis." The chairman, John F. Fulton, struck the keynote by stressing the roles played by various persons besides Fleming in the development of penicillin as a therapeutic agent. The prehistory of penicillin (1877–1929) was outlined by Jules Brunel. Recent progress in the use of antibiotics in tuberculosis, with special reference to streptomycin, was presented by William H. Feldman and H. Carwin Hinshaw. Plans have been made for a symposium at the Boston meeting on "The Place of the History of Science in General Education." (*From a report by R. J. Seeger.*)

Medical Sciences

Section N held a symposium on "Medical Science and Industry" in the auditorium of Washington University School of Medicine. The project was arranged in cooperation with the Council on Industrial Health of the American Medical Association. All of the participants were outstanding workers in their separate specialties, and the papers were prepared on invitation from the program committee.

On Wednesday morning the theme was "Atomic Energy." J. Kennedy, of Washington University, introduced the subject by a discussion on the disintegration of the atom. This presentation was followed by a consideration of the hazards and benefits of nuclear energy and the problems of health protection attendant on its production and use. In purposefully employing the atomic bomb as an instrument of destruction there are three effects: (1) from blasts, (2) from burns, and (3) from irradiation. The effects from blasts are the most devastating. The hazards of production as regards humans are limited to exposure to sources of neutrons, gamma, beta, or alpha rays, and are readily subject to control. The fourth paper, in a cognate field, was a report on the results of the therapeutic use of P 32. The data are most encouraging when used in the treatment of certain blood diseases and suggest extending this line of investigation to include C 14 and similar compounds.

In the afternoon five papers were read on the subject of trauma. With the advent of compensation laws, the whole subject of the etiological relationships of trauma to disease became of prime importance. Attempts to obtain objective data by animal experimentation have been most unsatisfactory; thus much of our knowledge is based on clinical experience. Following discussions on the relationship of trauma to diseases of the gastrointestinal tract, lungs and pleura, and heart there was a consideration of "Hostile Dependent Behavior in Rehabilitation" and "Compensation in One Trauma Cancer." In summing up the last subject Maj. G. Seelig stated: "I think that we shall eventually occupy a common ground in our reasoning toward the same conclusion that trauma may provoke, evoke, or incite the growth of cancer in a fashion that we do not now understand."

On Thursday, in morning and afternoon sessions, nine investigators contributed to the two themes: "Occupational Restoration and Positive Health in Employment Procedures" and "Industrial Medicine as a Special Discipline and Industrial Toxicology." Robert Elman, of Washington University School of Medicine, a member of the National Research Council wartime committee on convalescence and rehabilitation, pointed out that experience in Army hospitals showed that the traditional surgical practice of telling a patient nothing and not letting him move was unsatisfactory. By careful attention to psychological, physical, and nutritional aspects the apprehension of a patient is alleviated and convalescence speeded. Harold Storms, of the Rehabilitation Clinic of the Ontario Workmen's Compensation Board, Toronto, described the activities of this group in functional rehabilitation. One of the outstanding features of the morning program was a group of three papers on employer-employee relations. Many examples were drawn from experiences during the war in rapidly expanding industries, on the one hand, and the difficulties arising in such newly created cities as the Oak Ridge Project, where secrecy complicated and added to the mental tension of everyday life.

Following two papers on "The Scope of Occupational Health and Medicine" and "The Program of the Council on Industrial Health of the American Medical Association," J. Carlisle, of Rahway, New Jersey, continued the afternoon program with a report on the results of a study on anoxia in the presence of irritant gases. Treatment was with pure oxygen under slight pressure. The procedure seems to be superior to any other therapeutic method now available.

W. J. McConnell closed the symposium with a consideration of the coordination of safety practices with a progressive hygiene program in the protection of workers in 101 Army ordnance plants involving over 300,000 workers in nine industrial groups during World War II. The results were outstanding and, as the war drew to a close, complete protective measures were in effect.

The subject of the address of the chairman of the section, Warfield T. Longcope, professor of medicine, Johns Hopkins University, was: "The Importance of Researches Upon War Gases to Clinical Medicine." This served as a very fitting terminal paper for the symposium. New methods of treating heavy metal poisoning, certain diseases of the blood, and edema of the lungs were developed as a result of this work when it seemed apparent that gas warfare would be unlikely. There was considerable evidence that phosgene gave temporary relief in Hodgkin's disease and that PF3 had value in the treatment of glaucoma.

The program of Section N was in every way a successful one and suggests the continuation of the plan of arranging symposia with invited papers for future meetings. (*From a report by M. H. Soule.*)

Agriculture

In a joint meeting with Section E in the Kiel Auditorium a symposium was held on Soils, Thursday morning. W. A. Albrecht presided. This was the first half of a larger symposium, the theme of which was the relation of soils to plants, animals, and people. This theme was ably introduced by Charles E. Kellogg, chief, U. S. Soil Survey, who showed not only the continuous dependence of the human race upon the soil from the earliest dawn of its existence, but also the influence of soil characteristics on the distribution and movement of the world's human population and on the great civilizations of the past and present.

Pedology, the study of the soil, has grown to the stature of an independent science within the short space of less than a century. That this new science rests upon a solid foundation and has made a permanent place for itself among its older sisters, geology, botany, chemistry, etc., was made clear by Walter P. Kelley, University of California, in his critical analysis of the modern concepts of soil science, and by Frank F. Riecken, Iowa State College, who presented the causes of divergence in the character of soils during their development.

The thousands of widely diverse soil types scattered over the earth have been forced into a relatively few molds—or categories—by Nature's all-powerful forces of climate (mainly temperature and humidity) impinging upon rocks and other soil parent materials for long periods of time. Regional and local modifications have been caused by biological factors, such as type of vegetative cover, by the contour of the land surface, and by other forces. The soil scientist is finding order, not chaos, and clear-cut evolutionary development among soils just as truly as among plants and animals.

That the addition of certain substances to soils would increase crop yields was known more than 2,000 years ago. Progress in the effective use of fertilizers, however, has occurred almost entirely within the past century, and even now in actual practice it is almost wholly empirical. R. H. Bray, University of Illinois, discussed the chemical status of nutrient substances in soils and their mobility or nonmobility as determining factors in the rate and mechanism of uptake by growing plants. Based on this knowledge, methods for quantitative estimation of the critically important forms of the nutrient elements were developed, as well as mathematical equations for translating these results into quantitative fertilizer requirements and predicted increases in crop yields.

J. E. Greaves, Utah State Agricultural College, was unable to be present to discuss factors influencing the composition of wheat and flour and their relation to nutrition.

The session was attended by nearly 100 men and women representing soils, agronomy, chemistry, geology, geography, social sciences, and farm and home advisers.

The American Society for Horticultural Science held its three-day session in St. Louis with 11 sectional meetings and 3 joint meetings, together with 2 evening sessions.

The nature of the discussions and the interest in the various phases of horticulture are shown by the grouping of the papers into general sessions on fruit crops, physiology of vegetables, physiology of fruits, floriculture and ornamental horticulture, fruit storage and processing, chemical weed control, propagation, nut crops, and small fruits.

Joint sessions were held with the Biometrical Section of the American Statistical Association on plot arrangement; with the American Phytopathological

Society on potato diseases; and with Section O, the American Society of Plant Physiologists, and the Physiological Section of the Botanical Society of America on mineral nutrition of plants and animals. Evening round table discussions dealt with teaching methods, extension methods, and maintenance of plant genetic stocks throughout the world for breeding of fruits, vegetables, and ornamentals. An afternoon session was devoted to physiological problems with fruits and vegetables in consumer packages.

As has been the custom of the Society for many years, the banquet and social evening was in charge of the local horticultural group, under the chairmanship of T. J. Talbert, head of the Department of Horticulture, University of Missouri.

Announcement was made of the award of the Leonard H. Vaughan Memorial Award in Horticulture for outstanding horticultural papers published in the *Proceedings of the American Society for Horticultural Science* to Dr. V. T. Stoutemyer, U. S. Plant Introduction Garden, Glenn Dale, Maryland, for his paper on "The Influence of Changes in Molecular Configurations of Several Naphthyl Growth Substances on the Rooting Responses of Cuttings," and to Dr. P. W. Zimmerman and Dr. A. E. Hitchcock, of the Boyce Thompson Institute for Plant Research, for their paper, "Substances Effective for Increasing Fruit Set and Inducing Seedless Tomatoes."

Officers elected for 1946 were: president, G. F. Potter, USDA, Bogalusa, Louisiana; vice-president, J. E. Knott, University of California, Davis; sectional chairmen, A. L. Schrader, University of Maryland, College Park; R. A. McGinty, Clemson Agricultural College, Clemson, South Carolina; and S. L. Emsweller, USDA, Beltsville, Maryland; and secretary-treasurer, H. B. Tukey, Michigan State College, East Lansing, Michigan. (*From a report by H. B. Tukey.*)

President Tussing presided at the business meeting of the Potato Association of America, which was held on 27 March in St. Louis. The report and financial statement of the secretary, W. H. Martin, was read. The present officers of the Association were re-elected.

In discussion of the place and program of the next meeting, the fact was brought out that the certification authorities had been successfully meeting during the war with the International Crop Improvement Association, and that an effort should be made to attract the certification men to the meetings of the Potato Association, or a joint meeting might be arranged with the Crop Improvement Association. The preference of those present was that the next meeting of the Potato Association be held with the International Crop Improvement Association rather than with the AAAS, and that the program should include at least a half day of papers of special interest to the potato certification workers. A program committee, consisting of Marx Koehnke, chairman, H. M. Darling, and F. A. Krantz, was appointed to arrange for the next meeting. (*From a report by John Bushnell.*)

Some 30 members of various scientific and conservation organizations met on 30 March under the chairmanship of C. C. Adams and, after an afternoon of full discussion, adopted a resolution declaring that:

". . . it is the sense of this meeting that there should be organized a central service agency for conservation for the purpose of (1) providing its participating organizations with information regarding pending legislative and administrative programs and (2) furnishing such organizations assistance so far as practicable regarding sources of the most competent scientific information available relating to the activities and interests of member organizations."

A proposed amendment that would have added "(3) and to take such action as it sees fit in its own name" was defeated. The meeting elected Howard Zahniser, executive secretary of The Wilderness Society, to be secretary pending a formal organization and instructed Dr. Adams, as chairman, to appoint an Executive Committee to serve with him in arranging for a formal organization, it being declared the sentiment of the meeting that invitations to participate should be extended to as many organizations as the Executive Committee "may deem discreet." The committee so named comprises Dr. Adams as chairman, A. C. Redfield, Charles G. Woodbury, and Mr. Zahniser, and plans for a formal organization are being formulated under the provisional name "American Conservation Service."

On Friday afternoon, 29 March, with Paul J. Kramer presiding, Sections O and K, in joint session with the American Society of Horticultural Science, American Society of Plant Physiologists, and the Physiology Section of the Botanical Society of America, discussed the human and animal nutrition aspects of the Soil-Nutrition Symposium. Attention was focused chiefly on two phases: (a) deficiencies in human and animal nutrition with an attempt to determine the extent to which such deficiencies are traceable to the soil in which the food or feed is grown, and (b) research into the mechanism of metabolic processes.

Wm. A. Albrecht, University of Missouri, in his vice-presidential address sketched the broader phases of the problem and showed that, as soils come into advanced stages of maturity with old-age weathering, they not only decrease in crop-producing capacity but suffer differential losses of different constituents, particularly calcium in excess of potassium, and decreases

in nitrogen. The changes cause shifts in botanical population of plants which can be grown toward those of low value in animal nutrition. Similar changes, but of less extent, may occur within a species.

The South and other regions are confronted by major soil mineral deficiencies or by traditional diets which are seriously deficient in essential vitamins and other nutrition factors. T. D. Spies, Hillman Hospital of Birmingham, Alabama, discussed the incidence, physiology, and amelioration of many of these disturbances, using an impressive array of natural color photographs of symptoms in human subjects.

C. F. Huffman, Michigan State College, discussing "Nutritional Deficiencies in Farm Animals in Relation to Soil and Plant Composition," classified the essential mineral elements of the dietary into two groups. Cobalt, phosphorus, iodine, copper, sodium, chlorine, and occasionally calcium may be sufficiently low in the diet because of soil shortages or unavailability to produce nutritional diseases in livestock. Elements in the second group, including potassium, magnesium, manganese, iron, and zinc, are required by animals, but a deficiency of these elements has not been observed in ruminants under farm conditions. The speaker reviewed recent research which gives conflicting evidence as to the relation between fertilizer use and live weight increases of livestock, and which makes evident the need for further controlled research in this field.

The two succeeding papers were concerned with problems of metabolism studies in living cells. Kurt Stern, Brooklyn Polytechnic Institute, and Kurt Salomon, Washington University School of Medicine, joined in a critical study of iron porphyrin proteins in biological oxidations, the role of nonporphyrin iron and of manganese in fermentation, the functions of hemoglobin iron, hemocyanin copper, and zinc in carbonic anhydrase in the transport and exchange of carbon dioxide and oxygen. The role of other catalysts containing heavy metals in special reactions of vital importance was also discussed briefly.

Philip R. White, Institute for Cancer Research, reported on a critical study of techniques for investigating the nutrition of excised tissues. Culture solutions of fully known constitution are used in plant tissue studies. In adapting these methods to animal tissues resort has been made to heterogeneous mixtures of unknown composition, with a resulting limitation on the kinds of investigation which can be pursued. The author makes a plea for intensive research directed toward the production of improved culture solutions in order to broaden the scope and increase the precision of this type of work.

This session was attended by 450 people representing many fields of research, nearly one-third of whom were forced to leave early because of inadequate seating facilities. (*From a report by E. E. DeTurk.*)

Education

Five sessions of Section Q, Education, were held, including a joint meeting Thurday afternoon with Section I and the Midwestern Psychological Association. A thread of continuity ran through the various sessions which, exclusive of the joint session, comprised an aggregate of 19 papers. A deliberate effort was made to limit the number of participants in order to provide ample time for each speaker to develop his topic.

The opening session on Wednesday morning was devoted primarily to the question of the implications of the Armed Services educational program to public education, with special emphasis upon audiovisual aids. The afternoon session similarly dealt with the Armed Services testing program and postwar educational reorientation of veterans. On Thursday the discussion turned away from the war setting and toward the guidance and adjustment of civilians and the training of guidance workers. The final session, Friday morning, was given to a consideration of postwar education, cooperative curriculum ventures, and the creation of teaching efficiency.

Attendance at the programs of Section Q is traditionally small. The St. Louis meetings provided no exception, since at no time were more than 25 persons present. The papers read were of distinctly superior quality and clearly deserved larger audiences. Discussion of some of these ran far overtime, and requests for copies, either as reprints or in mimeographed form, indicated their importance. (*From a report by H. C. Koch.*)

Science in General

The American Nature Study Society, at its two sessions held in St. Louis as a part of the AAAS convention, brought together 10 educators and naturalists to discuss the role of such agencies as high schools, state parks and museums, state education and conservation departments, teachers colleges, park services, audubon societies, and academies of science in the promotion of conservation and nature education.

Some of the recognized problems were: (1) how to help teachers and youth leaders obtain a better understanding of sound conservation objectives and practices; (2) how to inspire and influence more administrators to undertake the establishment of conservation curricula; and (3) to meet the need for better literature to support such conservation and nature programs.

It was evident from the talks and discussions that St. Louis and Missouri are well launched on a broad program of conservation instruction continuing the fine work of Harris in science and nature starting back in the 1870's; that the State of Indiana is rapidly forging ahead with a strong program involving a summer training program and a series of school manuals; that the national and state parks have a wonderful opportunity for adult and junior programs in this field and that they are meeting them; and that such agencies as the National Audubon Society and the Philadelphia Academy of Sciences are setting fine examples of sound nature and conservation teaching through their summer nature camps and courses, year-round field trip and lecture programs, screen tours, and wildlife auto tours. (*From a report by R. L. Weaver.*)

A small group of invited scientists met informally as a Council on Methodology of Science for a preliminary discussion of the problem of whether or not the present structure of science is sufficiently strong to carry the rapidly increasing bulk of scientific production. Reference was made to progressive specialization, industrialization, group research, disparity of progress in different fields, growing student influx, research subsidies, educational policies, publication difficulties, increasing popular appeal of science and public responsiveness of scientists; and the effect of these factors on the standards of scientific performance and the efficiency and yield of scientific production. Agreement was reached on the need for more factual information on the psychological, economic, historical, educational, and methodological foundations of science. Emphasis was placed on a clear definition of the objectives of scientific research and on giving the initiative of the individual scientist the widest scope in working toward those objectives. It was recognized, however, that scientific procedure will have to be adjusted to the changing technological, educational, economic, and sociological frame. A full participation of all practicing scientists in this process of shaping their future course was declared desirable. As one means to this end, the group recommended the holding of a series of AAAS symposia dealing with the various facets of the scientific process (education, financing, publication, administration, publicity, etc.), particularly as they affect the individual scientist.

The members of the conference were: A. F. Blakeslee, D. W. Bronk, K. S. Lashley, H. B. Steinbach, B. H. Willier, Sewall Wright, R. M. Yerkes, and Paul Weiss, chairman. (*From a report by Paul Weiss.*)

Six science and mathematics teachers' groups cooperated in the program developed by several cooperating societies of teachers of science and mathematics in connection with the 1946 St. Louis convention of the AAAS, 27–30 March. These were: the American Nature Study Society, the Central Association of Science and Mathematics Teachers, the Cooperative Committee on Science Teaching of the AAAS, the National Association of Biology Teachers, the National Council of Teachers of Mathematics, and the National Science Teachers Association. In all, 16 programs were held, including two dinner meetings. In addition, numerous business and committee meetings were arranged for presentation of reports and the conduct of business. All of the programs were extremely well attended. The number of science teachers present ranged from 50 to 150. The meetings probably attracted more than 1,000 teachers of science.

The dinner meeting of the NSTA on 29 March was devoted to the general theme, "Unity and Action in Science Education." The group was honored by the attendance of James B. Conant, president of the AAAS, and A. J. Carlson, past president of the AAAS. Dr. Carlson also was the chief speaker at the Saturday morning meeting, when he presented an inspirational talk on "Science in the High School." All of the science and mathematics teachers joined in the Saturday evening dinner arranged by the National Association of Biology Teachers, at which the chief speaker was Otis W. Caldwell, general secretary of the AAAS. He addressed the group on: "Of What Does Good Biology Teaching Consist?"

The NSTA announced a high mark in its membership, which has reached the total of 2,300 individual members and 18 affiliated science teacher organizations. Among the important reports presented and approved were: (a) report to the Department of State on the status of science courses and teaching apparatus in the United States. This is to be used as a means of helping the devastated countries of the United Nations to re-establish their programs of science education; (b) standards and criteria for free and low-cost materials for science teaching; (c) the place of science in the education of the consumer.

The programs as a whole considered numerous professional problems now faced by science teachers in the elementary schools, in the junior high school, in the secondary schools, and in the colleges. (*From a report by Morris Meister.*)

Sigma Delta Epsilon, Graduate Women's Scientific Fraternity, held its annual convention in St. Louis on 27–29 March. A meeting of the National Council was held on 27 March. On 28 March, Sigma Delta Epsilon sponsored a luncheon for all women in science. Sixty-one scientific women gathered at the Hotel Statler to become better acquainted with each

other and to hear Virginia Bartow, of the University of Illinois, speak on "Historical Cooperation Among the Sciences." Matters of national business were considered at a breakfast at 8:00 A.M. on 29 March. Delegates from the 15 chapters of the organization, as well as the National Council members, attended this session. National officers, elected for 1946 are as follows: Nina E. Gray, Illinois State Normal University, Normal, president; Edith Quimby, College of Physicians and Surgeons, Columbia University, New York City, first vice-president; Pearl Claus, University of Wisconsin, Madison, second vice-president; Lela V. Barton, Boyce Thompson Institute for Plant Research, Inc., Yonkers, New York, secretary; and Beulah Armstrong, University of Illinois, Urbana, treasurer.

The fraternity will celebrate its 25th birthday in December 1946 at Boston. (*From a report by Lela V. Barton.*)

The Science Exhibition

Once again the leading supplies of scientific apparatus, equipment, supplies, and books cooperated to present their latest items for inspection by the members attending the AAAS meetings. Nearly all of the exhibitors were able to show new or improved products because of research carried on in conjunction with their activities of supplying the armed forces during the war. In addition to the usual large number of commercial exhibitors there were a limited number of scientific exhibits. The small number of the latter was due to the short time for preparation and the uncertainty of securing approval for releasing war research still covered by security regulations.

The Science Library was one of the most popular exhibits at the meetings. Books were received from nearly 50 different publishers in addition to a score or more of overseas publishing houses. The foreign items came from Canada, England, Russia, Poland, The Netherlands, France, Sweden, Belgium, and Norway.

Through the cooperation of the National Science Teachers Association and the Army Air Forces, two large exhibits on training methods and equipment from Scott Field and the Seventh Defense Command at Omaha, Nebraska, were open for the entire period of the exhibition. The U. S. Public Health Service, the Library of Congress, the Army Medical Library, the National Roster of Scientific and Specialized Personnel, and the Smithsonian Institution were other governmental agencies which provided exhibits.

The exhibition staff of the Washington office has already begun work on the exhibition to be held in conjunction with the December meeting in Boston. A local committee in charge of scientific exhibits is to be appointed, and invitations to participate will be issued shortly.

News and Notes

Capt. R. D. Bennett, technical director, Naval Ordnance Laboratory, spoke on "The Future of Science Under Government" at the meeting of the Philosophical Society of Washington on 16 February.

S. Eilenberg, of the University of Michigan, has been appointed professor of mathematics at Indiana University.

Dr. Herbert E. Longenecker has been appointed dean of the Graduate School at the University of Pittsburgh. Dr. Longenecker, who is dean of research in the natural sciences, succeeds Dr. William T. Root, who died early in 1945. A nutrition authority, he holds many national offices. He is expert consultant on fats and oils for the Office of the Quartermaster General, and a member of the steering committee of the Food and Nutrition Board, National Research Council. He has been a member of its committee on fats since 1942 and chairman since 1943.

Dr. Max E. Chilcote, of the Department of Physiological Chemistry, Loyola University School of Medicine, Chicago, has been appointed Nutrition Foundation Research Fellow in the Department of Agricultural and Biological Chemistry, Pennsylvania State College. Dr. Chilcote will work with Dr. N. B. Guerrant on methods for the estimation of vitamin A and carotene.

Maj. Rafael Rodriguez-Molina, Medical Corps, has been awarded the Army Commendation Ribbon for his service as assistant chief and chief of the Medical Service, 161st General Hospital, A.P.O. 851, U. S. Army.

Dr. Bennett Frank Buie has been appointed professor in the Geology Department at the University of South Carolina, Columbia. Dr. Buie has recently been released from the Army, where he had been serving as a major with the Corps of Engineers attached to the Persian Gulf Command.

Dr. W. A. Shurcliff, scientific and technical adviser to the New York State Department of Commerce, has been given temporary release by Governor Dewey to